

# VISION, SIZE, SHAPE AND SCOPE OF AFFILIATED COLLEGES OF NATIONAL UNIVERSITY BANGLADESH

A SITUATION ANALYSIS

SUBMITTED BY  
**Expert Committee for  
Vision, Size, Shape and Scope**



FEBRUARY 2021  
COLLEGE EDUCATION DEVELOPMENT PROJECT  
NATIONAL UNIVERSITY BANGLADESH  
SECONDARY & HIGHER EDUCATION DIVISION

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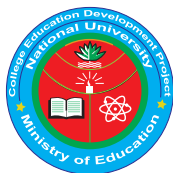
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## Names and Designations of the Members

[Not according to seniority]

- |  |                  |
|--|------------------|
| 1. Professor Dr. Harun-or-Rashid<br>Vice-Chancellor<br>National University Bangladesh  | Convener         |
| 2. Professor Dr. Munaz Ahmed Noor<br>Vice-Chancellor<br>Bangabandhu Sheikh Mujibur Rahman Digital University                       | Member           |
| 3. Professor Mahfuza Khanam<br>President, Asiatic Society of Bangladesh  | Member           |
| 4. Professor Dr. Nazma Begum<br>Department of Economics<br>University of Dhaka   | Member           |
| 5. Professor Dr. Md. Masihur Rahman<br>Pro-Vice Chancellor<br>National University Bangladesh                                       | Member           |
| 6. Professor Dr. Syed Shahadat Hossain<br>Institute of Statistical Research and Training<br>University of Dhaka                    | Member           |
| 7. Mr. Md. Belayat Hossain Talukdar<br>Additional Secretary (Dev)<br>Secondary and Higher Education Division                       | Member           |
| 8. Mr. Md. Abdullah Al Hasan Chowdhury<br>Additional Secretary (College)<br>Secondary and Higher Education Division                | Member           |
| 9. Professor Mostafa Azad Kamal<br>Dean, School of Business<br>Bangladesh Open University  | Member           |
| 10. Dr. Ferdous Zaman<br>Director (Planning and Development) & Secretary (In-Charge)<br>University Grants Commission of Bangladesh | Member           |
| 11. Mr. Md. Salimuzzaman<br>Director (Planning and Development)<br>National Academy for Educational Management                     | Member           |
| 12. MR. A. B. M Abdul Halim<br>Deputy Project Director (Deputy Secretary)<br>College Education Development Project                 | Member Secretary |



## Preface

Higher Education is the key to catering an intellectual and quality human resource to a nation. The Bangladesh government headed by Honorable Prime Minister Sheikh Hasina MP has given enormous emphasis on quality education in higher education to achieve the development goals and needs of the country. Quality education is so vital that is received topmost consideration by the SDG goal setters. With a view to attaining the aforesaid objectives, the government has undertaken a number of development initiatives.

In the tertiary college level, College Education Development Project (CEDP) is the first ever in the country being financed by GOB and the World Bank, which the National University Bangladesh has been implementing under the aegis of UGC from 2016 onward. Preparation of strategic plan for tertiary college education for 15-year ahead is one of the significant aspects of the project.

Secondary and Higher Education Division, Ministry of Education has constituted National Strategic Planning Committee and six Expert Committees. These six Expert Committees will work in six thematic areas to prepare six background study reports on tertiary college education. Expert Committee for Vision, Size, Shape and Scope is one of them which demands for consultations with other Expert Committees in preparing a report. This committee has produced a background study report after a series of meetings on the data, information and analysis of the concerned areas.

Needless to say that members of this committee worked very hard to provide in-depth inputs and suggestions which helped prepare the background study report in a pragmatic way. I hope, this study would provide necessary information to prepare the National Strategic Plan for tertiary college education to be implemented in the next 15 years.

I would like to thank and extend my heartiest congratulations to all members of the committee for their time and making valuable contributions. I also thank the officials of the project for their all-out supports and relentless efforts.

I wish this endeavor a great success.

**Professor Dr. Harun-or-Rashid**

Vice-Chancellor

National University Bangladesh

& Convener

Expert Committee

February, 15, 2021



# Acronyms

<b>ADB</b>	Asian Development Bank
<b>ADP</b>	Annual Development Program
<b>BAC</b>	Bangladesh Accreditation Council
<b>BBS</b>	Bangladesh Bureau of Statistics
<b>BCS</b>	Bangladesh Civil Service
<b>BDT</b>	Bangladesh Taka
<b>BEd</b>	Bachelor of Education acroBIDS Bangladesh Institute of Development Studies
<b>BISE</b>	Board of Intermediate and Secondary Education
<b>BMEB</b>	Bangladesh Madrasah Education Board
<b>BMTTI</b>	Bangladesh Madrasah Teacher Training Institute
<b>BOU</b>	Bangladesh Open University
<b>CEDP</b>	College Education Development Project
<b>DPE</b>	Directorate of Primary Education
<b>ESA</b>	Education Sector Analysis
<b>HSC</b>	Higher Secondary School Certificate
<b>HEQEP</b>	Higher Education Quality Enhancement Project
<b>ICT</b>	Information and Communication Technology
<b>IDA</b>	International Development Association

<b>LFS</b>	Labor Force Survey
<b>MoE</b>	Ministry of Education
<b>MPO</b>	Monthly Pay Order
<b>NAEM</b>	National Academy for Education Management
<b>NTRCA</b>	Non-government Teachers' Registration and Certification Authority
<b>NAP</b>	National Action Plan
<b>NCTB</b>	National Curriculum and Textbook Board
<b>NRC</b>	National Research Council
<b>NUB</b>	National University Bangladesh
<b>OECD</b>	Organization of Economic Co-operation and Development
<b>TVET</b>	Technical and Vocational Education and Training
<b>UGC</b>	University Grants Commission
<b>UIS</b>	UNESCO Institute for Statistics
<b>UN</b>	United Nations
<b>UNESCO</b>	UN Educational, Scientific and Cultural Organization
<b>WB</b>	World Bank

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# Chapter 1: Introduction

## 1.1 Background of the study

Knowledge is one of the most powerful drivers for sustainable economic growth in contemporary world. And the knowledge is generated in colleges and universities. The current government has recognised the importance of higher education and has undertaken initiatives aimed at strengthening the higher education system across the country. One of the initiatives was Higher Education Quality Enhancement Project (2009-2015). Another initiative has been College Education Development Project (CEDP). To meet the human development needs of the country, the College Education Development Project (CEDP) was commenced in 2016. The CEDP aims to strengthen the strategic planning and management capacity of the college education subsector and to improve the teaching and learning environment of participating colleges. The Project specifically focuses on the tertiary college education sector under the National University Bangladesh (NUB) which accounts for nearly two-thirds of all tertiary students in the government and non-government colleges in Bangladesh. To support the development of the strategic plan, the government of Bangladesh has constituted six expert committees composed of eminent scholars, academics, policymakers, and researchers to conduct situation analyses of the affiliated colleges of the NUB in thematic areas: Vision, Size, Shape and Scope; Access and Equity; Quality and Relevance; Management; Science, Technology and ICT education; and Financing. Members of the committee for Vision, Size, Shape and Scope have conducted situation analyses as per given Terms of References and thereafter recommended some possible changes. It is expected that the recommendations will be used as indicative guidelines to reorganise the colleges of higher study in the affiliated colleges of the NUB.

## 1.2 Objectives

The main objectives of this study are reviewing the situations of the government and non-government general colleges affiliated with NU as per Terms of References (ToRs) stated below.

- Analyzing the past and present programs and their effects on college sub sector;
- Explaining as to how the colleges would contribute to the economic development of the country;
- Drawing the expected structure and organization of the sub-sector;
- Analyzing the demographic and enrolment trend, enrolment projection in the next 15 years, student-to-teacher ratio growth;
- Reviewing the role of colleges and their growth scenario, including size and shape in the next 15 years;
- Suggesting overall change strategies for college sub sector;
- Setting milestone for the development of college sub sector;

## 1.3 Data and methodology

### 1.3.1 Data sources

This study used quantitative data collected from primary and secondary sources. The primary data were collected through a survey conducted in 2019 by the College Education Development Project (CEDP). The survey population was principals of 400 government and non-government colleges qualified by the CEDP authority to apply for Institutional Development Grants (IDGs) to be distributed the CEDP.

The secondary sources were Bangladesh Bureau of Statistics 2019; Bangladesh Institutes of Development Studies (BIDS) Baseline Satisfaction Survey 2019; World Population Projection 2019; NU Annual Report 2019; National Education Policy 2010; different Perspective Plan of Bangladesh, and University Grants Commission Annual Report 2019, 2020.

### 1.3.2 Methods

One of the key methods used was reviewing policy documents, relevant journal articles, books to shed lights on public policies and programs. Descriptive analysis of quantitative data was another method applied to shed light on current enrolment situations, size and shape of the affiliated colleges. Beside descriptive analysis, multivariate regression technique was applied to project enrolment in the future project as suggested by Hussar and Baily (2019).

Multivariate regression technique was applied to project enrolment in bachelor degree program only that was a sum of students enrolled in Bachelor (Pass) and Bachelor (Honour's) program in affiliated colleges by the year 2032. The technical details of the multivariate regression technique were described in the concerned section.

Exponential Smoothing Technique was applied as suggested by Hussar and Baily (2019) to project number of HSC graduates by the year 2032. We used ESM due to lack of sound theory and data about potential covariates. Generally, EST places more weight on recent observations than on earlier ones. The weights for observations decrease exponentially as one moves further into the past. As a result, the older data had less influence on the projections (Hussar & Bailey, 2019). The rate at which the weights of older observations decreased was determined by the smoothing constant. In the Excel we used *forecast.ets* function to apply EST and thereafter predicted future value on a timeline, based on a series of existing values

## 1.4 Structure of the study

There are seven chapters of this study including Introduction. Chapter 2 reviews education policies and programs of the government of Bangladesh. Chapter 3 represents the role of higher education in economic and social development of the country. Chapter 4 presents overview of the affiliated colleges of the National University Bangladesh followed by Chapter 5 that review current student enrolment situations in the affiliated colleges. Chapter 6 discuss about demographic features including changes in the demographic composition and student enrolment projection in the affiliated colleges. Chapter 7 is devoted to present major findings of this study and possible changes in the college subsector.



# Chapter 2: Policies & Programs

## 2.1 Description of higher education policies

About higher education, public policies are spread across National Strategy for Accelerated Poverty Reduction II (Revised): FY 2009-2011, 7th Five Year Plan for 2016-2020, Perspective Plan of Bangladesh 2010-2021, Perspective Plan of Bangladesh 2021-2041 (PP2041), National Education Policy 2010, and Strategic Plan for Higher Education in Bangladesh: 2018-2030.

National Strategy for Accelerated Poverty Reduction II (Revised): FY 2009-2011 recognized that (i) equity in access (ii) gender disparity (iii) internal inefficiency and (iv) inadequate public finance were key issues of higher education subsectors. To handle the issues, government contemplated actions which include (i) revising Private University Act 1992; (ii) establishing Bangladesh Accreditation Council; (iii) installing effective governing body in colleges; (iv) recruiting adequate number of teachers to reduce student-teacher ratio; (v) permanent and separate pay commission for teachers recruitment; and (vi) dealing resource constraints by introducing cost-sharing.

Perspective Plan of Bangladesh: 2010-2021 identified (General Economic Division, 2015) key issues in higher education that included: (i) upgrading the curricula and improving teaching-learning methods for quality outcomes to meet 21st century challenges; (ii) integrating ICT in the curriculum irrespective of the stream and encourage computer aided learning at secondary level by establishing a coherent and comprehensive policy framework articulating national priorities in the education; (iii) reducing urban-rural gaps; (iv) linking TVET curriculum to local industries and business needs and higher studies; (v) reducing session jam and elimination of politicization in higher educational institutions; (vi) introducing a fair, non-political system of recruitment and promotion of teaching staff on the basis of performances; (vii) introducing a special salary scale for teachers to ensure commitments and accountability; (viii) increasing revenue of the public universities to cover 50% of their budget; (ix) implementing Private University Act to enhance quality education and a standardized system; and

(x) setting up an Accreditation Council for ranking the quality of higher education in all of the public and private universities

In line with the prior perspective plan document, the Perspective Plan 2021-2041 (PP2041) renews the key issues in higher education, including the quality of education and gender equity. According to the PP 2041, the key issues are: (i) raising the quality of higher education in terms of students' cognitive skill and innovative and analytical capacity; (iii) increasing the participation in higher education (iv) raising the capacity of technical and vocation education and (iv) increasing the focus on science and technology education; (vi) reducing the skill gaps in the labour market. On the other hand, National Education Policy (NEP) 2000 proposed a “complete reform” of higher education to meet the needs of the 21st century. That encompasses cross cutting issues of access, equity, financing, curriculum, management and quality of higher education. NEP 2000 emphasized a restructuring of tertiary education programs by increasing the duration of the Bachelor (Pass) degree programs, supporting the expansion of engineering education and giving a cautious support to private universities; NEP 2000 further recommended to introducing cost-sharing in higher education, and ensuring quality curriculum and syllabi in higher education. An extract from the NEP 2010 is quoted in Box A.

**BOX A: NATIONAL EDUCATION POLICY 2010 REGARDING HIGHER EDUCATION**

- All necessary steps and care will be taken to improve the standard of higher education;
- Measures will be taken to provide residential facilities, special help and scholarships for the children of freedom fighters, of small ethnic communities and socially backward groups;
- 4-year Honors degree will be considered the terminal degree and acceptable/required qualification for jobs in all sectors excepting teaching positions at higher education institutions;
- Masters, M.Phil. or Ph.D. will be considered specialized education. To ensure pursuance of research, graduate programs will be introduced in all departments of all universities;
- Colleges now offering Masters degrees under National University will continue to do so. But the libraries, laboratories and infrastructural facilities of these colleges have to be improved;
- English will be taught as a compulsory subject at the degree level of all colleges and universities;
- Teachers and students together have to take part in research. At the universities, special emphasis will be given on original research;
- Curricula and syllabi of higher education will be updated to meet international standards;
- Necessary investment in the education sector will be ensured to maintain international standard of higher education. Besides government funds, institutions of higher education will have to make use of students' fees and collect funds at personal levels to meet expenditures;
- Tuition and other fees will be determined as per the financial solvency of the parents. Poor parents and students will benefit from such a system.
- Scholarships will be awarded to the students according to their merit and financial solvency of their parents. Moreover, provisions will be made for meritorious students for academic bank loans at easy terms.

Source: Ministry of Education (2010). *National education policy*, pp. 24-25

To achieve the policy objectives, 7th FYP <sup>1</sup> suggested activities and programs are: (i) providing necessary library, laboratory & IT facilities and by offering appropriate training and scholarships for the teachers; (ii) introducing ICT courses in all of the post-graduate colleges of Bangladesh; (iii) undertaking new projects to strengthening these colleges; (iv) facilitating more all reputed and established degree colleges offering honours and masters programs in order to maintain the quality of tertiary education; (v) strengthening of age old renowned colleges.

The most recent policy document, PP2041 outlines strategies for education and training to harness the demographic dividend by the year 2041. The PP2041 has identified major challenges that includes (i) converting the ongoing demographic transition whereby the share of the active population is increasing relative to the total population and (ii) making a true development dividend. The policy documents envision this will be done by undertaking strategies to convert working age population into a well- educated and trained labour force. An extract from PP2041 is given in Box B.

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<sup>1</sup>General Economics Division (2012).Perspective plan of Bangladesh 2010-2021: Making vision 2021 a reality, p. 82

**BOX B: PERSPECTIVE PLAN 2021-2041: STRATEGIES FOR HIGHER EDUCATION**

- Strengthening role of private sector: Education beyond 12 years of schooling will primarily be a private sector responsibility. The surge in private investment in higher education in recent years is encouraging and indicative of the capability of the private sector to take on this role. Public provision of higher education will continue with a focus on areas where private investment is lacking, on closing the gender gap in tertiary education, and in science, technology and medicine.
- Enhancing quality: The standard and quality of colleges for higher education will be enhanced by providing necessary library, laboratory & IT facilities and by offering appropriate training for the teachers. ICT courses would be introduced in all of the post-graduate colleges of Bangladesh. Accreditation process will be strengthened to pay due attention to quality aspects of private colleges and universities in terms of physical facilities and staffing quality.
- Promoting equity: To ensure equity, need-based public scholarship programs will be provided for students who demonstrate the required competencies and meet the admissions criteria in private colleges and universities.
- Eliminating gender gap: The gender gap in higher education will be eliminated through scholarships for women and emphasis on establishing public colleges for women at each district level.
- Strengthening University Grants Commission (UGC): The UGC will be empowered to take a leadership role in strengthening university education and advanced academic research. This will include restructuring the UGC to strengthen its capacity as the leader in the policy matters and ensuring transparency and accountability in the academic, financial and administrative affairs in the government and private universities.

Source: General Economic Division (2020). *Making vision 2041 a reality: Perspective plan of Bangladesh 2021-2041*, pp. 56

## 2.2 Reviewing National Education Policy 2010

By the word “Policies”, this study refers to strategies stated in the National Education Policy (NEP) 2010. NEP 2010 has stated twenty strategies encompassing key areas:

- a. access and equity;
- b. quality;
- c. management; and
- d. financing;

Theoretically, the framework of reviewing public policy consists of two major aspects: policy effects and policy implementations. The policy effects refer to effectiveness of the strategies; and the policy implementations refer to accessibility (i.e. associated cost plus feasibility).

### 2.2.1 Access

The policy about accessing higher education are as follow: (i) students will be allowed to take up higher study according to their merit, interests and aptitudes. (ii) residential facilities will be provided to students from the disadvantaged groups (iii) scholarships will be awarded to the students according to their merit and financial solvency of their parents. Moreover, provisions will be made for meritorious students for academic bank loans at easy terms.

**Effectiveness:** Literally, higher education policy (HEP) emphasizes on access to higher education based on merit. Scholars are of the view that higher education is not required for all. Merit-based access to higher education is conducive to ensure qualified students who are well-prepared and intellectually fit to peruse higher education. The fundamental assumption here is that, intellectual students are well prepared to finish higher study successfully. Evidences show that based on the principle of meritocracy, Singapore has become the most prosperous country economically from the ashes (Quah, 2018). Although, there is no doubt that without higher education, a country will not get professionals like doctors/engineers/or managers. Nevertheless, the concern is, massification of higher education and quality higher education barely goes together. Research evidence supports the hypothesis that merely more graduates do not accelerate growth (Hanushek, 2016). Quality of graduates is matter. Differences in cognitive skills (a measure of quality) —the knowledge capital of countries—can explain most of the differences in growth rates across the countries, but

just adding more years of schooling without increasing cognitive skills historically has had little systematic influence on growth (Hanushek, 2016).

Secondly, higher education policy emphasizes on scholarship to influence participation from the disadvantageous socioeconomic background. Although the efficacy of scholarship to access to higher education is unclear, scholars are of the view that scholarships help poor meritorious students to access to higher education. The irony is poor students (means students from poor households) is less likely to be prepared to go for higher education.

**Implementation:** To maintain access to higher education based on merit, entrance examination is held in Bangladesh for long. The system has been working perfectly. However, to get admission into the affiliated colleges of National University, currently there is no provision for entrance examination. Students are selected for enrolment based on their results, achieved at the Secondary School Certificate (SSC) and Higher Secondary Certificate (HSC) examinations. The results are accepted world-wide to measure cognitive skill and quality of graduates (Hanushek, 2016). In case of Bangladesh, to be qualified to get enrolled into higher education under the National University, the minimum standard (results) is GPA 2.5 at Higher Secondary Certificate Examination (NU, 2018).

Under the current entrance examination system, to get access to higher education in any public university, an interested candidate is required to appear for entrance examination for that particular university. Observations show that, a student appears multiple entrance examinations administered by respective universities to secure a place in any public university. This costs a student a lot, as out-of-pocket expenditure, and appear as financial burden on the student. To lessen the financial burden on students or their parents, the current government has taken initiative(s) recently to implement cluster-based entrance examination system instead of separate entrance examination. However, the initiative has yet to be realised fully and wait to go far.

## 2.2.2 Quality

Government policies about quality higher education includes transforming 3-year long Bachelor (Pass) degree program to 4-year long Bachelor (Honour's) degree program, granting permission only to those institutions of higher education that comply with the NU regulations to administer higher education program, invest in higher education adequately, and to ensure teachers' training programs.

**Effectiveness:** Globally, the first degree of higher education in college is 'undergraduate degree' and the duration of the degree program is 4-year. In line with



the global standard, it is meaningful to introduce 4-year degree program in place of 3-year degree program; however, it is premature to make any assessment about the effectiveness of the duration of study due to lack of any evidence. Notwithstanding, scholars presuppose that the reform will rise quality of higher education imparted in affiliated colleges.

In addition, the policy document did not state about the necessity of higher academic degree like doctoral degree for college faculties who are involved in delivering higher education. A survey showed that in college subsector, only around 5% teachers had doctoral degree. Scholars are of the view that it was extremely useful to get more academics having doctoral degree in the academic arena.

Although, higher education policy emphasises on investing adequately in higher education to bring a change in physical facilities, it is tacit about student-to-teacher ratio. Research findings in different country contexts corroborate the evidence that student-to-teacher ratio plays a critical role in maintaining quality education, let alone higher education. Currently, in the government colleges the average student-to-teacher ratio is 90:1.<sup>2</sup> The ratio is too high to maintain an effective interaction between a teacher and his/her students. The reason for high ratio is attributed to inadequate number of teachers/teaching positions in government colleges. Relatively, the average ratio is low in the private colleges, but still high. The matter is not addressed in the national education policy yet.

In addition, the policy document did not cover the necessity of higher academic like doctoral degree for college faculties who are engaged in delivering higher education. A survey showed that in college subsector, only around 5% teachers have doctoral degree. Scholars are of the view that it is extremely useful to get more academics having doctoral degree in the academic arena.

Physical infrastructure, such as buildings, classrooms, laboratories, and equipment of learning are crucial elements for quality education too. A research study (Barrett et al. 2006) found evidence that, environmental and design elements of school infrastructure together explain 16% of the total variation in students' academic progresses. This research shows that the design of education infrastructure affects learning through three interrelated factors: naturalness (e.g. light, air quality), stimulation (e.g. complexity, color), and individualization (e.g. flexibility of the learning space).

Research evidences about the effect of pedagogical training on academics in higher education are contrasting. One study showed no significance differences between the trained teachers and the untrained teachers in delivering teaching service in the UK

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<sup>2</sup>Source: College Education Development Project Survey Data, 2019.



(Norton et al. 2005) while another study showed positive relationship (Postareff et al. 2007). Thus, the efficacy of teachers' training may be country-specific.

**Implementation:** Implementation of government policy regarding higher education in colleges appears weak. Based on experience and newspaper analysis, we notice that the majority of the colleges, except some non-government colleges situated in district towns in Bangladesh are in dilapidated conditions. Lack of adequate number of teaching staff is another area of concern yet to be addressed. This is attributed to budgetary government allocation. Meaning that students attending these schools are in disadvantaged position. A baseline satisfaction survey analysis prepared by the BIDS (2015) has found the evidence of inadequate number of classrooms, lack of internet facilities in campus, lack of multimedia in classroom in government and non-government colleges across the country.

Although the NU has mandate to grant affiliation to a college to run higher education degree program, the NU authority often gives in to political wills of the local political masters and grant affiliation to colleges sometimes despite the fact that, this colleges have not complied with the NU conditions regarding affiliation of colleges.

Regarding teachers' training, National University has mandate under the National University Act 2002. The university has been delivering subject-based training to colleges faculties, but the evidence show that the opportunity falls short of demand (BIDS, 2019). Consequently, many teachers remain untrained.

### 2.2.3 Financing

National Education Policy (NEP) 2010 has given immense importance to investment on higher education from two sources: government and students. NEP 2010 has stated that "Beside the government funds, institutions of higher studies will have to make use of students' fees and collect funds at personal levels to meet expenditures." Resorting to the Principle of Cost-sharing (Johnstone, 2004) is the underlying message of statement about financing higher education. According to the principle, "Cost-sharing, or the shift in at least part of the higher educational cost burden from governments (or taxpayers) to parents and students". This is a worldwide trend, manifested in the introduction of (or in sharp increases in) tuition fees, or use of charges for lodging.

**Effectiveness:** Using students' tuition and other fees as sources to finance higher education is not new in Bangladesh. Non-government colleges and universities are run on the principle of full cost recovery since its inception. In this regard, the case of Dhaka Commerce College, Dhaka City College is remarkable and hence, appear effective. However, in government colleges and universities, use of the principle is far

off. In government colleges tuition fee is highly regulated by the central government authority. Moreover, the tuition fee is source of income of the government. According to the financial rules, each government college must deposit the collected tuition fees to the government treasury.

In Bangladesh, newly established public universities have been implementing new student fee structure, higher than the public universities. Unlike public universities, government colleges are unable to implement any differential fee structure. The phenomenon is seen even in Europe, where higher education is free, as well as in countries that were once Marxist and that are finding loopholes to retain the legal semblance of free higher education, while becoming increasingly dependent on tuition revenue for the financial survival of their institutions (Johnstone, 2004).

**Implementation:** Bangladesh, where tuition-supported private higher education is growing, still cannot openly embrace even the concept, much less the actual implementation of an official policy of tuition fees.

## 2.3 Government projects

Government investment in higher education development is implemented by two key bodies: Directorate of Secondary and Higher Education and the University Grants Commission (UGC) of Bangladesh. To implement the investment plans the two bodies implement various development projects. The DSHE implement projects directed to the government and non-government colleges, and the UGC implement projects directed to universities.

According to the Implementing and Monitoring, Evaluation Division (IMED) of the Government of Bangladesh, in the fiscal year 2019-2020, total estimated outlay for the development of public universities across the country was Tk. 30,804.9 million. The given amount of investment is planned to implement forty-eight development projects by the UGC. On the other hand, total estimated outlay for the development of government postgraduate colleges across the country was Tk. 1,950.00 million. The given amount of investment is planned to implement two development projects, one is by the DSHE and the other one is by the National University/UGC. So, out of total government investment in higher education under the Annual Development Program, in the fiscal year 2019-2020, 94% of the total investment is directed to public universities and only 6% of the total investment is directed to government colleges.

### **2.3.1 Postgraduate College Development Project**

Since August 2010 till to date, DSHE has been implementing a solo project to develop postgraduate government colleges located in district towns across the country. Government of Bangladesh has been financing the project from its own sources under Annual Development Program. The estimated amount of cost is Tk. 16,904.47 million. The main objective of the project is

(i) Developing infrastructure facilities in renowned ancient government postgraduate colleges located in district towns across the country. (ii) Imparting training to teachers to make teachers abreast of the updated NU curriculum and knowledge. (iii) Supplying education materials to colleges.

It can be argued that considering the size of beneficiaries, the size of investment directed to higher education colleges is very meager. The factor(s) responsible for this meager investment is unknown; however, after consultation with key officials of the DSHE, it is learnt that DSHE fails to present suitable investment plan to the concerned line ministry i.e. SHED, while the ministry calls for proposal(s) for investment. Unlike the public universities, the government colleges do not have any department for planning and development. The Planning and Development Wing of the DSHE is responsible for preparing proposal for investment for the development of government and non-government colleges. Unfortunately, the wing fails to deliver required investment plans.

### **2.3.2 College Education Development Project**

The CEDP supports the GoB's college subsector as articulated in the NEP 2010, the 7th Five Year Plan (2016–2020) and the Strategic Plan for Higher Education (2006–2026). The Project is aligned with the government's vision for the subsector. It focuses on (a) enhancing the quality of education services offered through improved teaching-learning facilities and professional development of teachers in the colleges; (b) strengthening subsector planning and management through development of strategic plan for colleges and improvements in teachers' recruitment process; and (c) encouraging institutional capacity building through provisions for strengthening, planning, and FM in the colleges.

# Chapter 3: The Role of Higher Education in Development

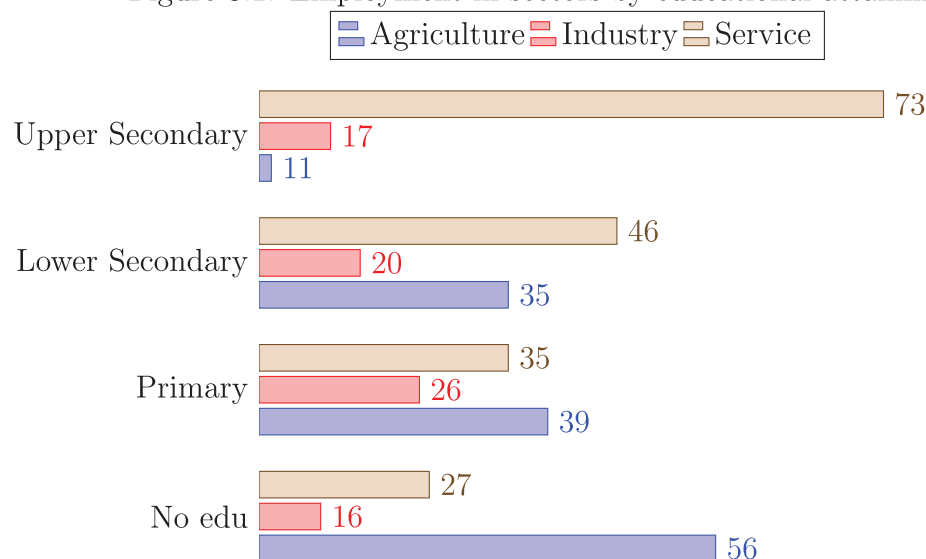
## 3.1 Introduction

The role of education in human capital development is well-established in literature. The concept of “human capital” emerged in late 1960s. Schultz, Becker, Denison, George. Kendrick, Robert Lucas - the founders of the concept of human capital considered education not only by the consumption of certain forms of educational services, but also on the part of productive capital investments (Mankiw, Romer, & Weil, 1992). Later on, health or nutrition and life expectancy are emerged as additional concepts of “human capital” and jointly constitute the complete concept of human capital index in the 2018 (World Bank, 2018a). The main channel of human capital to contribute to economic development is rising GDP growth, measured by the size of total output in an economy.

Theoretically, total output is decomposed into labour productivity multiplies by total number of workers, holding physical, health and other form of capital constant. Therefore, the economic growth can be attributed to the increasing productivity of the working age population (who are aged 15 years and above). Theoretically, the driving force of rising labour productivity is rising human capital (measured by years of schooling) and reallocation of labour from low productive sector to high productive sector (for instance from the agriculture to the industry) (Fig 3.1).

First, Mankiew et al. (1992) constituted the growth model using the effect of ‘years of schooling’ on labour productivity. The growth model is an extension of Solow’s growth model where human capital is a factor of production (Mankiw, Romer, & Weil, 1992).

Figure 3.1: Employment in sectors by educational attainment (%)



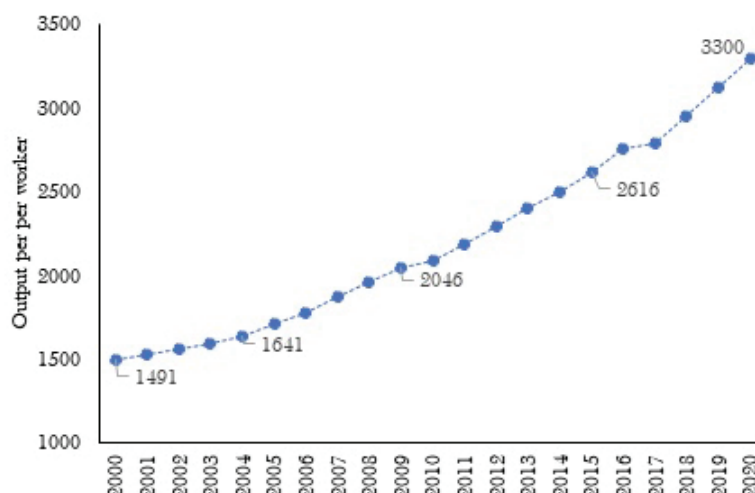
Data source: Labour Force Survey, 2016-2017.

## 3.2 The stock of human capital

The stock of human capital is not static, rather dynamic in nature. With an increasing average level of schooling, the stock of human capital rises. The low level of schooling amongst workforce results in low labour productivity. Consequently, a country cannot reap the benefits of demographic dividend. The history of some Asia-Pacific countries shows that some countries (such as South Korea) cashed in the benefits of demographic dividend because of their high share of working-age highly educated population. Currently, in Bangladesh the situation is different from that of South Korea in terms of the share of highly educated population. In Bangladesh, 40.8% of the total working-age population do not have education, and 23% of the total working-age population have education up to the primary only (BBS, 2018). Hence, the benefit of demographic dividend will remain utopia unless the country can have large share of highly educated human capital. One of the key challenges of Bangladesh is, to turn the huge number of the uneducated working age population into human capital by providing them with education and training up to the required graduate level.

Since 2000, labour productivity, measured by the total output per worker in constant USD (United States Dollar), has been rising steadily in Bangladesh (refer to Fig 3.2). The Fig 3.2 shows that output per-worker rose from USD 1491 in 1990 to USD 3300 in 2020 in constant price.

Figure 3.2: Per worker output



Data source: ILO modelled estimated, Nov 2019. This measure of labour productivity is calculated using data on GDP in constant dollars derived from the World Development Indicators database of the World Bank. To compute labour productivity as GDP per worker ILO estimates for total employment used. For more please access to <https://ilostat.ilo.org/data/>

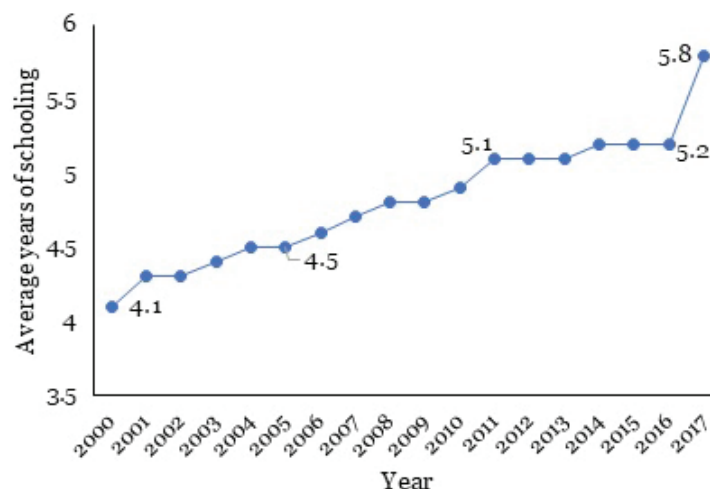
Between 2000 and 2020, the average years of schooling (of the working population) rose from 4.1 year to 5.8 year (Fig 3.3). Between the given periods labour productivity increased by 121%, and the average years of schooling (of population ages 25-64 years) rose approximately by 41%. Although the rise of labour productivity was not proportional to the rise of years of schooling, numerous research evidences show that one of the key drivers of rising productivity was rising average years of schooling <sup>1</sup>To get more insight about the statistical relationship between the average years of schooling and labour productivity, we have estimated the Correlation of Coefficient<sup>2</sup> of the relationship between the stated two variables of interest. The estimated Correlation Coefficient ( $R^2$ ) was 0.96, meaning that the movement of the two variables of interest is intensely correlated with each other.

<sup>1</sup>Here, the caveat is rising average years of schooling is not solely liable for rising labour productivity. The attributing factors may be redistribution of labour employment from the primitive agriculture to manufacturing and service sector where technology drive productive. It is well documented in literature that technological diffusion is strongly correlated with the level of education of the users.

<sup>2</sup>Correlation coefficient expresses the direction and the intensity of association between two independent variables. The value of coefficient run between -1 to +1. The estimated value if approach to +1, the association between the two variables is very intense and the vice versa.



Figure 3.3: Average years of schooling (ages 25 years and above)



Data source: United Nations Development Program, [hdr.undp.org/en/indicators/103006](http://hdr.undp.org/en/indicators/103006)  
 Average number of years of education received by people ages 25 and older.

The contributing factor behind the rising average years of schooling is rising numbers of tertiary graduates. From Fig 3.3, we notice that the average years of schooling rose steadily between the year 2000 and 2016, but soon after 2006, the average years of schooling rose sharply. According to the UNESCO Institute for Statistics, the total number of tertiary graduates<sup>3</sup> rose by 48% in 2018 (base year 2014). Meaning that tertiary graduates rose sharply too. And 80.5% of the total tertiary graduates graduates received bachelor's or equivalent degree and only 19% of the total tertiary graduates received master's or equivalent degree. With the rising share of tertiary educated labour forces, occupation in formal manufacturing sector was rising too. For instance, the share of labour force working in manufacturing has increased to 14.4% in 2017 from 7.3% in 2000 (BBS, 2018).

### 3.3 The contribution of affiliated colleges

The contribution of affiliated college to the stock of human capital of the country is remarkable. In government and non-government colleges total number of students enrolled for higher education in Bachelor (Pass), Bachelor (Honours) and Master's

<sup>3</sup>The International Standard Classification of Education (ISCED) 1997, a framework developed by UNESCO, classifies tertiary education programmes into four types of programmes: ISCED level 5 – Short-cycle tertiary education; ISCED level 6 – Bachelor's or equivalent level; ISCED level 7 – Master's or equivalent level; ISCED level 8 – Doctoral or equivalent level.

programs have risen tremendously in the last one decade. The growth scenario of enrolment is presented in Table 3.1 and Table 3.2. Between 2006 and 2018, the growth of students' enrolment in B.Sc (honour's) program was higher than that of in Bachelor (honour's) and Master's degree programs. The highest growth of enrollment occurred in the non-government colleges. In 2018, while the growth of student enrollment in B.Sc (honour's) degree program in the government colleges was on average 881%, the figure was 1570% in the non-government colleges (please refer to Table 3.1 and Table 3.2). The key contributing factor to the massive surge in enrolment growth might have been the growth of female students enrolment in the non-government colleges. The estimated share of female enrolment is higher than that of male both in the government and non-government colleges.

Table 3.1: Enrolment growth in government colleges, 2006-2018

Year	Degree colleges		Honours colleges		Master colleges		Total
	Male	Female	Male	Female	Male	Female	Both
2006	66570	50104	42420	26000	196869	121555	465340
2018	141351	141519	331717	306840	690603	511504	2123534
Growth	112%	182%	682%	1080%	251%	321%	356%

Data source: BANBEIS (2019)

Table 3.2: Enrolment growth in non-government college, 2006-2018

Year	Degree colleges		Honours colleges		Master colleges		Total
	Male	Female	Male	Female	Male	Female	
2006	303540	207677	14695	8496	35797	29223	599428
2018	315064	370130	54746	252093	114119	83228	1189380
Growth	3.8%	78%	273%	2867%	219%	185%	98.42%

Data source: BANBEIS (2019)

### 3.4 The empirical relationship:

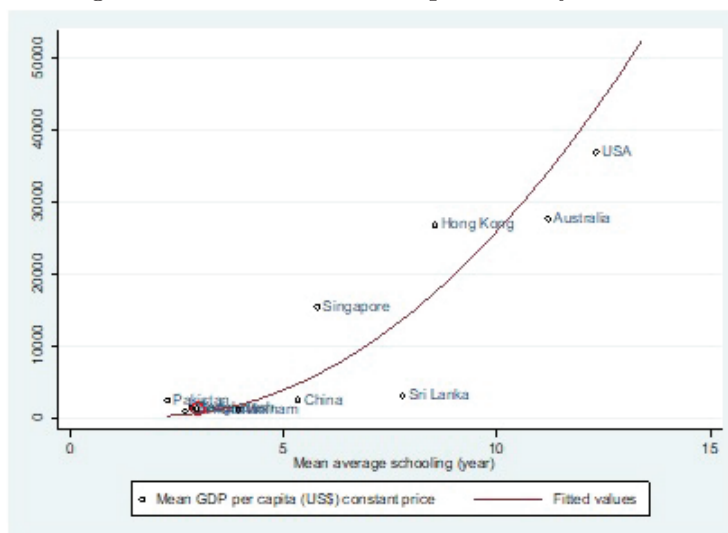
The effect of changes in age structure on growth is known as “demographic dividend” (Cauaresma, Lutz, & Sanderson, 2014). To reap the benefit of demographic dividend, raising productivity of human resources is inevitable. Cauaresma, et al. (2019) have assessed the relative importance of changes in age structure and human capital for economic growth for a panel of 165 countries; and found the evidence of dominance



of human capital over age structure. The finding corroborates the evidence that demographic dividend is driven by human capital rather than age structure.

To shed lights on the relationship between human capital and economic development, this study compares Bangladesh's position with some countries situated in the South Asia and other parts of the world where stocks of human capital are remarkable. For instance, USA, Singapore, Hong Kong, China. This study plots graphically the movement of logarithmic transformation of the variable - per capita GDP and the variable - means years of schooling of population aged 25 and above for the periods 1990-2016. We initially fit three scatter plots for the periods of 1990, 2000, and 2016 in Fig 3.4, Fig 3.5, and Fig 3.6. In the graphs, X-axis shows the mean years of schooling and Y-axis shows logarithmic transformation per capita GDP.

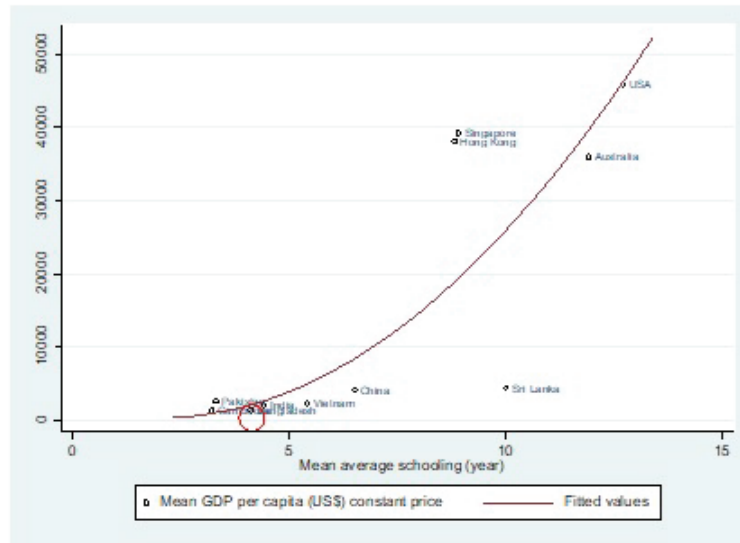
Figure 3.4: The relationship for the year 1990



Data source: World Development Indicators, available at:  
<https://databank.worldbank.org/analysiss.aspx?source=World-Development-Indicators>.

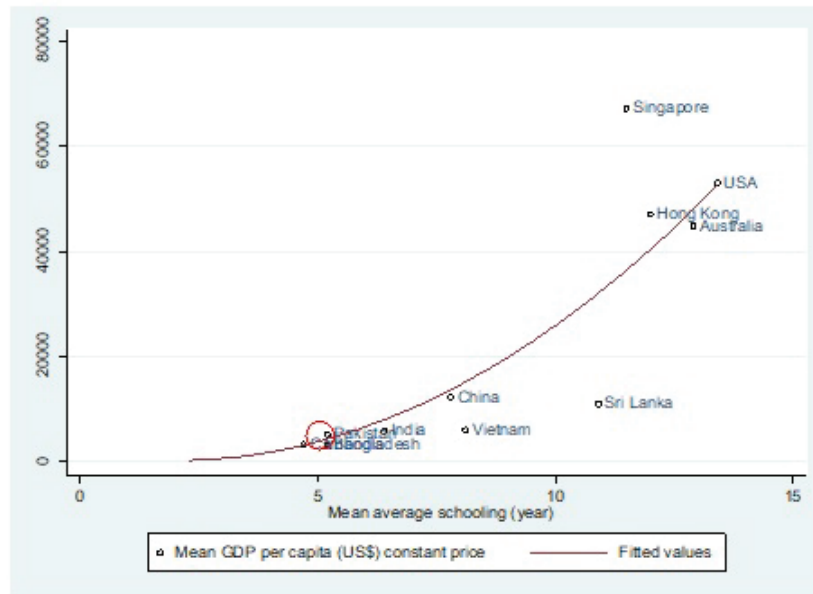
It emerged from Fig 3.4 that the correlation between the years of schooling and GDP per capita is exponential and globally positive. Means that a country with high GDP per capita has a high average year of schooling and vice versa. In the global context, the position of Bangladesh is at the begging of the fitted line along with India and Pakistan, other two countries from the South Asia. Sri Lanka was in better position than that of Singapore in terms of stock of human capital, but Singapore was enjoying relatively higher per capita GDP than that of Sri Lanka. The data support the evidence that , alongside human capital, others types of capital that is known as physical capital (such as infrastructure) may be required to influence GDP growth.

Figure 3.5: The relationship for the year 2000



Data source: World Development Indicators, available at:  
<https://databank.worldbank.org/analysiss.aspx?source=World-Development-Indicators>.

Figure 3.6: The relationship for the year 2016



Data source: World Development Indicators, available at:  
<https://databank.worldbank.org/analysiss.aspx?source=World-Development-Indicators>.

This situation is supported by the Fig 3.5. From the Fig 3.5, we notice that along with the movement of the curve, Singapore has made impressive achievement in per

capita GDP surpassing Australia, thus, enjoy more per capita GDP.

From Fig 3.6 we notice that by 2016, countries in the Asia-Pacific – China, Singapore, Vietnam, Hong Kong have made tremendous achievement in means year of schooling and per capita GDP, while countries in the South Asia except Sri Lanka made a small progress.

Scholars are of the view that the contributing factor behind the role of highly educated stock of human capital is that, economies with highly educated human are more agile adopting technologies that is adept at absorbing new technologies, research and development, efficient good market to catch up with advanced economies.

## 3.5 Higher education and social development

Beside economic growth, the role of education in social development is undeniable. The formation of the foundations of civil society, the health of the nation, formation of the middle class, and the development of democratic values, attitudes and cultural norms are some of the perceived benefits. In the 90's, the role of innovation and research for sustained economic growth started to appear gradually, that resulted in the birth of Knowledge-based society. There are multiple channels through which higher education can impact on the society, some of these are : (a) consolidated democracy (b) reduced social crime (c) improved health.

### 3.5.1 Consolidated democracy

A hypothesis education leads to more democratic politics, has received empirical support and across the world. The correlation between education and democracy is extremely high (Glaeser, Ponzetto, & Shleifer, 2007). Based on cross-country evidences of 91 countries, a study (Barro and Lee, 2001, Cited in Glaeser et al.2007) showed that the Correlation Coefficient between education and democracy was 0.74.<sup>4</sup> The underpinning theory of the relationship is that educated people 0.74. The relationship is founded on the assumption that educated people understand the right of others. There are other theories too, such as education generates benefits in terms of social participation, because it facilitates seamless information exchange. Moreover, an educated person is better able to express what he/she knows to the society. The educated persons are also better able to acquire new information, to understand, and to learn (Bowles and Gintis, 1976).

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<sup>4</sup>The Correlation Coefficient run between 0 and 1. The estimated value move close to 1 mean high statistical relationship and vice versa

### 3.5.2 Reduced social crime

The perceived benefit of education is reduced crime in the society where they live in. There are some studies to explore the relationship between reduced crime and stock of human capital. For instance, Lochner (2020) and Lochner and Moretti (2004). According to a study by Lochner, the relationship between the higher level of educational attainment (a measure of stock of human capital) and the majority types of crime is negative. Meaning that with a rising level of education, crime rate decreases (Lochner, 2020). The underpinning reasons for the relationships are two folds. One is due to attending school for a longer period of time associated with rising level of education, some people remain engaged otherwise, thus, cutting down time to commit crime. Secondly, rising level of education raises social norms and values and raises ability of legal earning of the educated.

Truex (2011) investigated the relationship between corruption, attitude, and education in Nepal. The study has provided evidences empirically that with a rising level of education attainment tolerance for corruption declines. That is, the effect on attitude toward corruption continues to decline with an extra level of education. It is believed that university graduates are less tolerant than high school graduates, and high school graduates are less tolerant than middle school graduates, and so forth.

### 3.5.3 Improved health

Improved health is crucial for human capital development. Some research studies provide us with empirical evidence that education causes better health. For instance, Arendt (2005) found evidence in Denmark that each extra year of education roughly improves the probability of good (or very good health) by 10% (Arendt, 2005). Similar evidence is found in Australia. Li and Powdthayee (2015) found evidence in Australia that an extra level of education improves people's diet and their tendency to have more regular exercise but not necessarily their tendency to avoid risky health behaviors (e.g., smoking and drinking) or the tendency to undergo more preventive health checks.

# Chapter 4: Overview of Affiliated General Colleges

## 4.1 History of affiliated colleges

In undivided India, before the British found a network of schools to deliver western education in English Medium, three distinct traditions of advanced scholarship were available: the Hindu gurukulas, the Buddhist viharas, and the Quranic madarasas. During the British colonial rule, a number of colleges were founded in East Bengal either through government initiative or by local patrons for the spread of education and as a step towards achieving higher education. The lists of these colleges are Dhaka College (1841), Chittagong College (1869), Eden Girls' College (1873), Rajshahi College (1873), Murari Chand College, Sylhet (1892), Comilla Victoria College (1899). Because of the foundation of these colleges, many students who were from the Middle class, particularly Muslims were able to avail the opportunity of higher education and got jobs in the society.

In 1857, three federal examining universities on the pattern of London University were founded at Calcutta, Bombay and Madras (Agarwal, 2006). Later on, more universities were founded in this region. At the time of independence from the British rule in 1947, there were 19 universities, including the University of Dhaka (1921) and several hundred affiliated colleges in this region. These colleges were affiliated with the University of Calcutta, but they set the ground for the advent of higher education in this region (Agarwal, 2006).

The University of Dhaka was established under the Govt. of India Act. XVIII of 1920 (Which was based on the recommendations of the Calcutta University Commission presided over by Sir Michael Sadler) as a unitary, teaching and residential University. The University had had a constitution similar in many respects to those of the then contemporary English university following the creation in 1947. . The East Bengal Educational Ordinance, 1947, was promulgated, by which the University,

without prejudice to its original character as a teaching and residential University of Dhaka was entrusted with sole authority to recognize and affiliate all educational institutions of higher study in East Bengal. Accordingly, in 1947, the University of Dhaka affiliated 58 first and second grade colleges throughout the whole of East Bengal. After independence, the Government of the People's Republic of Bangladesh promulgated the adaptation of University Laws by the Bangladesh Ordinance No. 1 of 1972. Afterwards, in pursuance to the Constitution of the People's Republic of Bangladesh, the President Order No. 11 of 1973 which is called the "Dacca University Order, 1973 was promulgated. After the emergence of several new universities later, they did little to ease the burden of Dhaka University.

In 1992, the National University Act, has added an affiliated university to the structure of higher education on the pattern of the University of London. Today, the higher education in Bangladesh is spread across university, affiliated colleges, and madrasahs. Currently, the National University has around 2230 affiliated general colleges of higher education. Apart from that, the university has some affiliated professional institutes /colleges. , Notice that, the University of Dhaka has 7 government-owned affiliated general colleges. The share of the college sub-sector is bigger than the university sub sector in terms of institutional coverage: teachers and students. The share of colleges as providers of higher education as a whole was 93%, whereas the share of university as provider of higher education as a whole was only 7%.

## 4.2 Streams of tertiary higher education

Tertiary higher education is divided into two streams, one is 2-3 year long diploma and certificate program in technical and vocational education and training (TVET) institutes; and the other is 3-year and above long degree program in colleges and universities. The main difference between the tertiary higher education and higher education is that, higher education does not include technical and vocational education.

Irrespective of the streams, having HSC or equivalent qualifications , a HSC graduate is qualified initially to pursue higher education. The composition of general higher education is: Bachelor Pass; Bachelor Honours; Master's; Masters of Philosophy and Doctor of Philosophy (PhD) . The composition of technical higher education is: M.B.B.S; Bachelor of Engineering; Masters of Engineering; PhD in Engineering; Diploma degree in engineering; and related disciplines offered in technical and vocational institutions across the countries are also branches of higher education. Except Bachelor pass degree, the duration of Bachelor honour's degree is 4-year full-time



study. The NU affiliated colleges do not offer M.Phil., Ph.D. or equivalent qualifications. However, the demand for tertiary higher education is high.

According to an estimate of the UNESCO, more than 24,000 students from Bangladesh were studying in higher education institutions abroad in 2013. A majority of them was in the UK and the USA. However, if we take into consideration the number of students who pass HSC or equivalent examinations each year – thus attaining the qualification to enter higher education – the enrolment ratio appears quite low. For instance, in 2016, total numbers of passed HSC or equivalent examination was 899,150 which was nearly 5% more than the figure of 2015. While more than 900,000 students were expected to join the university age population in 2017.

According to an estimate of the UNESCO Institute for Statistics (The World Bank, 2017), in 2014 the gross tertiary enrolment ratio was 13% in Bangladesh compared to 28% in Malaysia, 31% in Indonesia and 39% in China. And according to the sixth All India Survey on Higher Education (AISHE), in 2014 gross enrolment ratio was 23.6%.

### 4.3 Landscape of affiliated colleges

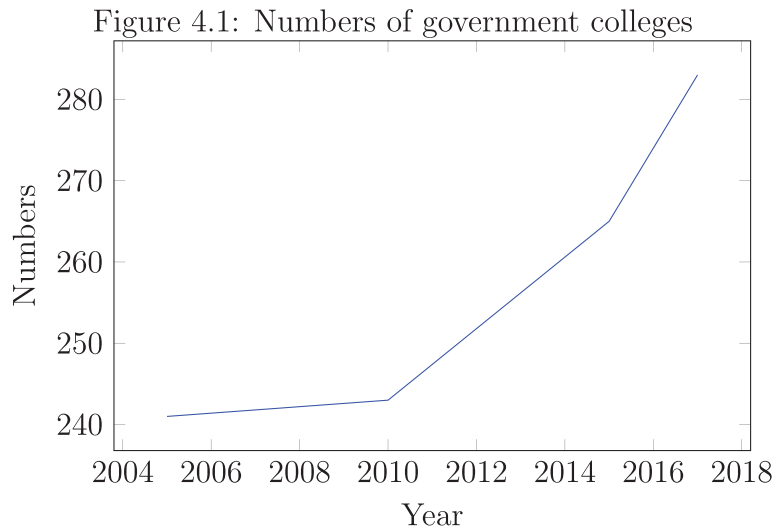
Broadly, there are three types of affiliated colleges by management:

- government colleges;
- government aided non-government colleges, and;
- non-government colleges.

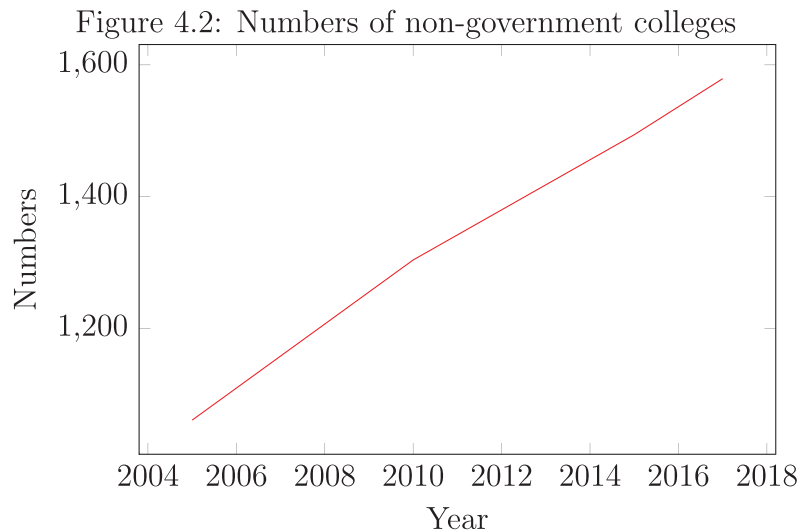
By management type, the changing landscape of higher education provider is noticeable from the graph presented in Fig 4.1 and Fig 4.2. There is a marked increase in the private providers of higher education. There is a marked increase in the private providers. However, in face of disfavoured public perceptions about the job market performance of the tertiary college educated graduates, the expansion process came to a halt recently. The NU authority is no more considering application for affiliating new college of higher study.

The model of financing and management of affiliated colleges is broadly three types: government financed and management; government-aid and governing board managed; and finally, independent and governing body managed.

Time series data for the year 2006 through to the year 2018 further show that total number of students enrolled for higher education in the affiliated colleges increased



Data source: Bangladesh Economic Review (2018).



Data source: Bangladesh Economic Review (2018).

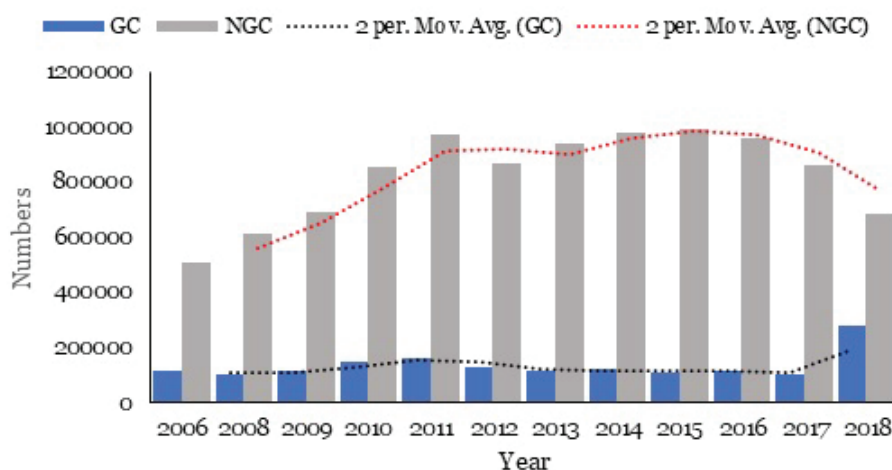
form 0.46 million in 2006 to 2.12 million in 2018, i.e. in the last one decade, enrolment in bachelor pass, Bachelor honours, and Masters degree programs increased by 356% (BANBEIS, 2019). Therefore, the role of affiliated colleges in expanding higher education opportunity is very significant.

Further analysis shows that, student enrolment in Bachelor (Pass) degree in the government colleges remained almost static in the last one decade, except for a sudden surge in the year 2018 (Fig 4.3), while the enrollment in non-government colleges was rising fabulously between 2006 and 2017. A two-year moving average curve for the government colleges seems constant, while for the non-government colleges the trend



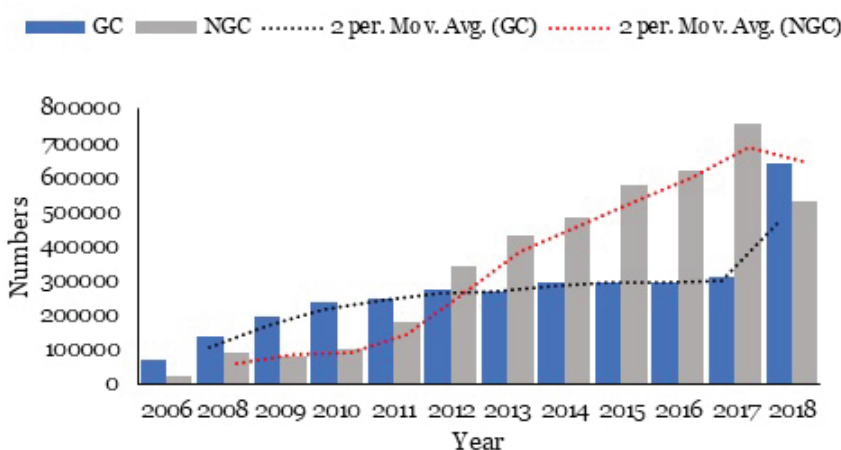
was rising upward.

Figure 4.3: The enrollment in Bachelor (Pass), 2006-2018



Data source: BANBEIS, 2019

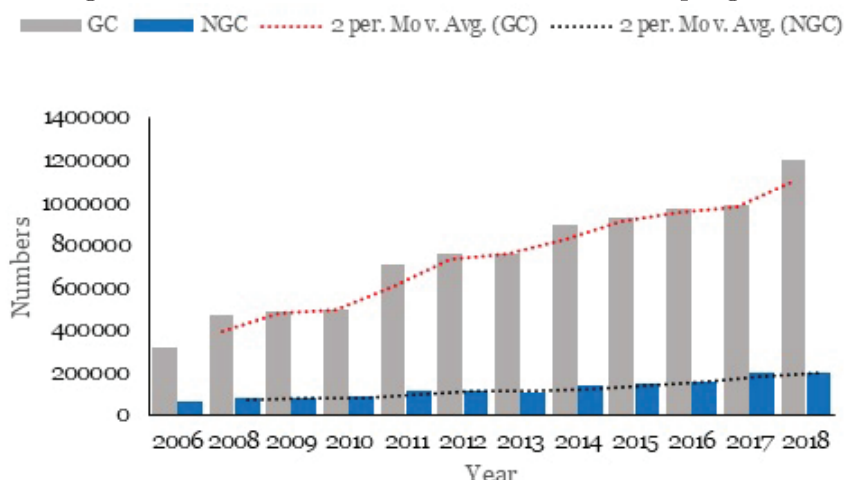
Figure 4.4: The enrollment trend in Bachelor (Honour's)



Data source: BANBEIS (2019).

On the other hand, total number of students enrolled in Bachelor (Honour's) degree program in the government colleges was higher than that of the non-government colleges between the year 2006 and 2012. After 2012 and onward, total enrolment in the non-government colleges was higher than that of the government colleges (Fig 9). Notice that, a sudden change took place in the year 2018 (Fig 4.4). On the whole, total number of students increased from 68,420 in 2006 to 638,557 in 2008, that is, total enrolment in Bachelor (Honour's) program increased by 833%.

Figure 4.5: The enrollment trend in Master's program



Data source: BANBEIS (2019).

In line with the students' enrolment in colleges for Bachelor (Pass) and Bachelor (Honour's) programs, student's enrolment for Master's program in the government and non-government colleges increased in the last one decade too. Based on 2-year moving average curve, we noticed that relatively more students were enrolling for Master's programs in the non-government colleges (Fig 4.5).

The evidences of the increasing enrolment is a reflection of increasing demands for higher education. The general wisdom is that the demands is disconnected with the demands in the job markets due to lack of information of alternative pathway of tertiary education (i.e. vocational -education) that might have contributed to the increasing demands for higher education in colleges.

Experience shows that social network and connection play a vital role in the decision-making process of an HSC graduate's preferred destination for further education. In the decision-making process, a HSC graduate or his/her parent is not aware of the implications of further education. Furthermore, despite enough information, some parent decides to send their children to college or university to maximize social prestige although their children do not have good pre-university academic results that make them fit to pursue higher education.

## 4.4 Ownership

The National University Bangladesh has 801 Honour's and Master's colleges across the country. Of these affiliated colleges 26% colleges are owned by the government

and 75% colleges are owned by the private. Disaggregated data further show that of the honour's colleges 17% colleges are government owned and 83% are private owned. However, of the master's colleges 68% are owned by the government and only 32% is owned by the private.

## 4.5 Student-teachers ratio

The student-to-teacher ratio measures available teaching resources in an educational institution (here, the colleges). The general wisdom is, a lower student-to-teacher ratio helps students to develop and maintain closer academic relationships with their teachers; receive quick feedback and getting involved in more interactive discussion that is essential for quality learning. Data from the Times Higher Education World University Ranking reveals that the top universities across the globe are with the best student-to-staff (teacher) ratio, for instance, Stanford University of the USA has a student-to-teacher ratio of 7:1.

The members of the Expert Committee are of the view that, student teacher ratio constitutes a key dimension of learning environment in a college. The view springs from the experience that student-teacher ratio in colleges is very high. Smaller classes are often seen as beneficial, because they allow teachers to focus more on the needs of individual students and reduce the amount of class time needed to deal with disruptions. Yet, while there is some evidence that smaller classes may benefit specific groups of students, such as those from disadvantaged backgrounds (OECD, 2019), overall evidence of the effect of class size on student performance is mixed.

The Organisation of Economic Co-operation and Development (OECD) has reported that at the tertiary level, on average, students-to-teacher ratio in members of the OECD countries is 16:1 (OECD, 2019). The ratio ranges from 9:1 in Norway to over 25:1 in Colombia, Indonesia and Turkey. Furthermore, there is difference in ratio between public and private institutions across the OECD countries, with 15:1 in public institutions and 16:1 in private institutions (OECD 2019). According to the Bangladesh Bureau of Statistics (BBS), on an average, student-teacher ratio at Bachelor Honours level is 42:1 and at the Master's level 106:1 (BBS, 2019). However, in government colleges, the ratio is much higher than that in non-government colleges.

# Chapter 5: Reviewing Current Enrollment and Size

## 5.1 Current gross enrollment ratio

Bangladesh starts from a very low base in terms of higher education (World Bank, 2019). Nevertheless, the country has witnessed a sharp rise in enrolment<sup>1</sup> in the past 20 years, relative to its neighbouring countries. Historical data show that the gross enrolment ratio rose from 13.69% in 2011 to 24% in 2019 (Table 5.1). The enrolment ratio increased by an average rate of 1.72% between the year 2011 and 2019.

Table 5.1: Total supply of seats and total demand

Year	Male (%)	Female (%)	Total(%)	Change (%)
2016	20.95	14.68	17.81	0.91
2017	21.28	14.91	18.10	0.29
2018	24.02	16.98	20.51	2.41
2019	27.90	20.00	24.00	3.49

Source: <http://uis.unesco.org/en/country/bd>

According to the UNESCO data<sup>2</sup>, out of the tertiary education enrollment, enrollment in Bachelor (Honour's) or equivalent, Master's or equivalent and Ph.D. or equivalent degree was 78.16%, 15.73%, and 0.42%; the enrollment ratio in the other degree program was 5.69%. Based on the UGC data 2020, the distribution of total enrolment shows that the affiliated colleges of NU took the major share of 17.45%,<sup>3</sup> followed by the private and public universities of 2.0% and 1.77% respectively (of the eligible population of 16-22 years) respectively. The enrollment ratio is 3% in Open University. Total enrolment ratio is 24.41% excluding Islamic Arabic University.

<sup>1</sup>Enrolment ratio of tertiary education (TE) is equal to total number of enrolment in TE, irrespective of age, divided by the total number of population ages 118-22 years.

<sup>2</sup><http://uis.unesco.org/en/country/bd>

<sup>3</sup><http://data.uis.unesco.org/index.aspx?queryid=134>

An analysis shows that in the year 2019, out of 2.78 million students enrolled for higher education in 2260 affiliated colleges, 1.27 million (i.e. 43.30%) students enrolled in Bachelor (Pass), 1.44 million (i.e. 49%) enrolled in Bachelor (Honour's) and 0.23 million (i.e. 7.75%) enrolled in Master's degree program. According to the NEP 2010, 3-year long Bachelor (Pass) program should be dissolved gradually from the education system of Bangladesh.

According to student enrolments, higher education systems are classified world-wide into 'elite', 'mass' and 'universal' states of higher education (Trow, 1973, Cited in Agarwal, 2006). According to Trow's classification when the gross enrolment ratio (GER) ratio is less than 15% the higher education system is classified as 'elite higher education'; when gross enrolment ratio (GER) lies between 15% and 50% the higher education system is classified as 'mass higher education'; and gross enrolment ratio (GER) is more than equal or equal to 50% the higher education system is classified as 'universal higher education' system (Trow, 1973, Cited in Agarwal, 2006).

As per Trow (1973) classification it can be concluded that the enrolment in affiliated colleges is in the stage of mass higher education with an enrolment ratio of around 17%. With an enrolment of less than 2%, the higher education in public and private universities is still at the stage of elitism. On the whole, with an enrolment of 24.41%, the higher education in Bangladesh has been at the early stage of massification.

## 5.2 Demand and supply phenomena

### 5.2.1 Supply phenomena

According to the University Grants Commission Report 2020, in 2019 in 46 public universities total number of seats for 1st-year Bachelor honours or equivalent degree program was 47,171. According to the National University Data<sup>4</sup> in 2019-2020 academic session in the NU-affiliated colleges total number of seats in 1st-year Bachelor honours or equivalent degree program was 436,135. So total number of seats was in 1st year Bachelor honours or equivalent program was 4,83,306. In addition, in the NU-affiliated colleges, in 2019-2020 academic session, 4,21,890 seats were available in 1st year Bachelor (Pass) degree programs. So, total supply of seats for higher education in 46 public universities and NU-affiliated colleges was 9,05,196. That is 95% seats for 1st-year Bachelor Pass and Bachelor honours or equivalent degree program were in affiliated colleges.

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<sup>4</sup>The data are supplied by the ICT Division of the NU.

### 5.2.2 Demand phenomena

At the macro level the supply of higher secondary school certificate (HSC) graduates in a year (i.e. the sum of HSC/HSC (Business Studies)/Alim passed successfully in a year) is the key driver for demand for higher education in the next year. The supply of HSC graduates has been rising consistently over the year. For instance, in 2006 total number of HSC graduates was 2.63 million and it rose to 9.8 million in 2019 (BANBEIS 2019, The Daily Star, 2020, Feb 14). However, every HSC or equivalent graduate does not qualify to have entry to higher education in Bangladesh due to minimum academic qualification that is required for entry to higher education. According the University Grants Commission standard a student must secure a minimum grade point average (GPA) 2.5 out of 5 scale at the HSC examination. So, the size of the demand for higher education is 8,45,298 (Table 5.2)

Table 5.2: The distribution of HSC graduates, 2018

GPA Scale	HSC	Alim	HSC (Business Study)	Total	Cumulative total
GPA 5	25562	1244	2456	29262	29262
GPA $<5 \leq 4$	116351	14297	60622	191270	220532
GPA $<4 \leq 3.5$	143388	19837	19214	182439	402971
GPA $<3.5 \leq 3.0$	192814	20748	5592	219154	622125
GPA $<3.0 \leq 2.0$	202124	19844	1205	223173	8,45,298

Data source: BANBEIS, 2019

### 5.2.3 Demand and supply gap

Based on the above analysis, it emerged that 46 public universities and NU-affiliated colleges have almost (9,05,196 - 8,45,298) = 60,000 additional seats. If we take into account seats in the private universities across the country, the gap between the demand and supply is larger. According to the UGC (2020) in 2019, total number of seats in 1st year Bachelor honours program was 1,83,277, so in 2019, total number of additional seats stood at 2,43,277. The implication of the analysis is that every HSC graduate has scope to pursue high education. And the country does not need any higher education institution.



### 5.2.4 College size

The general affiliated colleges as higher education institutions are dualistic in nature i.e. deliver higher secondary and higher education side by side in the same campus. So far, the knowledge goes, there is no such instance around the world. In India, there are thousands of affiliated colleges and the affiliated colleges are dedicated institutions of higher study only.

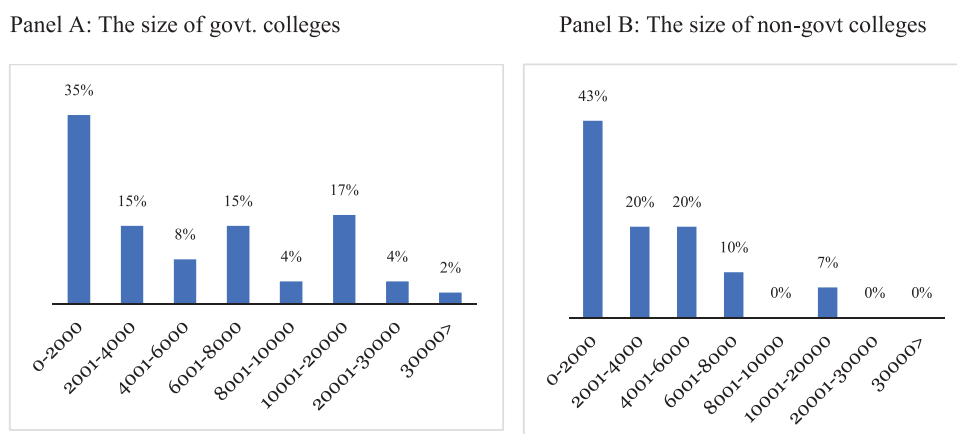
In Bangladesh, because of the dualism, the size of a college in terms of total enrolment in higher education is difficult to be ascertained easily. BANBEIS publishes data of student enrolment grouping colleges into four groups: intermediate colleges, degree colleges, honour's colleges, and master's colleges, but without any explanation of the classification, that lead to false conclusion about the size of a college as a higher education institution. In order to shed light on the size of affiliated colleges of higher study, we conducted a field survey in the year 2019. That is termed as 'CEDP Survey 2019'.

CEDP Survey 2019, shows that the size of colleges in terms of students' enrolment in degree pass, degree honour's and master's programs varies widely. The minimum size of a government college in the sample is as low as with 400 students, and the maximum size of a government college is as big as with 34,000 students. The estimated mean size is 6400 and the median size is 4000. The difference between the mean and median gives us an indication that the distribution is highly skewed to the small size. The distribution of government college in Panel A of Fig 5.1 shows that 34% government colleges' size is less than 2,000 students and the cumulative figure shows that 94% colleges have a size of less than 20,000 students. A very small proportion of (2%) government colleges have a size of over 30,000 students.

On the other hand, the minimum size of a nongovernment college in the sample is as low as with 400 students, and the maximum size of a government college is as big as with 20,000 students. The estimated mean size is 3500 and the median size is 2500. The distribution of students in non-government college in Panel B of Fig 5.1 shows that 43% non-government colleges are small in size with less than 2,000 students. And the cumulative figure shows that 100% colleges have a size of less than 20,000 students. The difference between the mean and median gives us an indication that the distribution is highly skewed to the small size.

The implication of size of a college is a matter of public policy interest for economic and academic reasons. The theory of firm states that an ideal size of a firm is crucial to keep its cost of operation to the minimum level for financial sustainability. In the simplest term, the optimum size ceases resource wastage. Analogous to the firm,

Figure 5.1: The distribution of college by size



Data source: CEDP Survey (2019).

a college can avoid wastage of resources by maintaining an ideal size. Secondly, to maintain student-teacher interaction at the utmost level, an ideal size of students in a classroom is inevitable.

### 5.3 Shape

The analysis of shape examines the discipline-wise distribution of enrolment. According to the UGC (2020) data, in the year 2019, of the total students studying in the NU-affiliated colleges 31% students were in Arts and Humanities, 31.44% students were in Social Science, 27.48% students in Commerce and 9.3% students were in Science Faculties. And 0.07% students were in Technology (University Grants Commission, 2020). The data show that the share of students in Science and Technology was relatively low. In the affiliated colleges, Science and Technology education is limited to Physics, Chemistry, Mathematics, Botany and Zoology. A few colleges offer degree in Statistics and Soil Science. Because of low share of Science graduates, it is believed that the college graduates might be lagging behind to participate in the growing avenue of job market based on ICT, science and technology etc. (World Bank, 2014).



# Chapter 6: Enrolment Projection

## 6.1 Introduction

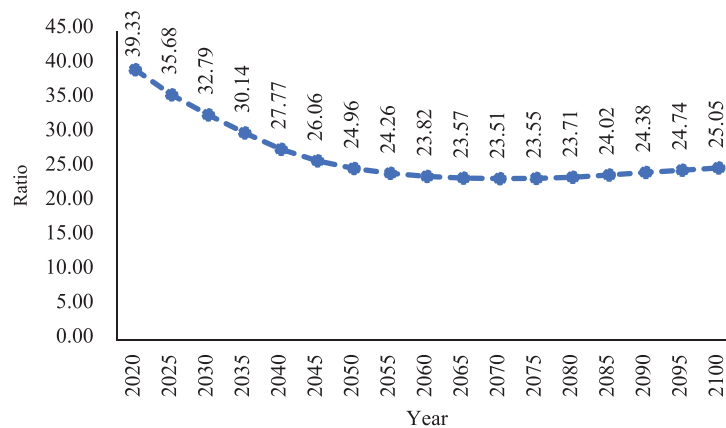
In this sub-section, we explore age-dependency ratio in Bangladesh. Age dependency ratio is a ratio of people younger than 15 years or older than 64 years of the working-age population whose ages are 15 years to 64 years. Age dependency ratio line expresses the movement of economically active population. There are two dimensions of age-dependency ratio, one is the ratio of population ages 0-14 to ages 15-64 population per 100 population; and the other one is the ratio of population ages 65 and above to ages 15-64 population per 100 population.

The former one is known as Child Dependency Ratio and the later one is known as Old Dependency Ratio. The United Nation (UN) population projection shows that Bangladesh will continue to experience a continuously falling, albeit gradual, child dependency ratio to reach 36% in 2025 and 33% in 2030 from 50.6% in 2010 (United Nations, 2017). Since 2020, overall projected trend will be declining until the year 2070 (Fig 6.1).

Population structures depicted in Population Pyramid (Fig 12) show that the population of primary schooling age (5-9 years) falls by the year 2032. The share of the population falls from 4.40% in 2019 to 3.63% in 2032. Means that, the demand for primary education may fall by the year 2032. An implication of this falling demand is huge. Many primary schools will function either without adequate number of students or many primary schools will be closed down. Hence, the government requires to adjust its budgetary allocations for the primary schools. Accordingly, the share of population belongs to the age group 10-14 years and 15-19 years may fall by the year 2032. The share of population within the age group 10-14 years and 15-19 years and fall from 9.3% in 2019 to 7.61% by 2032; So, the demand for secondary education may decline by 2032.

The above demographic transition shows that the size of the country's labour force rises nearly 53 million between the periods of 2010 and 2050, which opens a wide

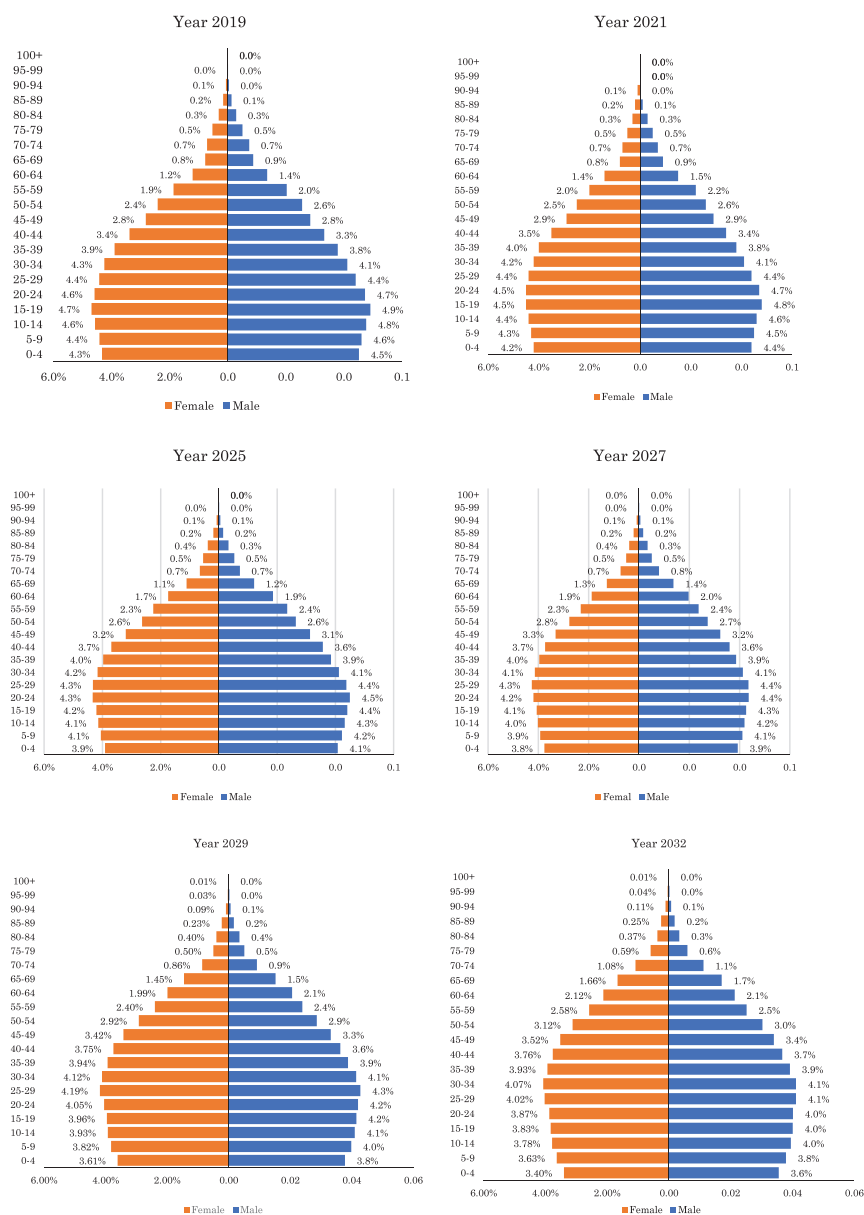
Figure 6.1: Child dependency ratio



Source: United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition. Rev. 1.

window of opportunities for Bangladesh for consolidating rising economic growth. The potentiality can be realised if and only, if more human capital joins the labour force over the next two decades. Therefore, the policy choice is clear. Bangladesh must implement necessary measures to create highly educated workforces before its population start to age mid-21st century, when a different set of problems would emerge for the economy of Bangladesh.

Figure 6.2: Population pyramids



Data source: BBS(2015). Population projection of Bangladesh: dynamics and trends 2011-2061.

Table 6.1: Projected population aged 18-22 years

Year	Projected population (in 000)
2016	14622
2021	18445
2026	17440
2031	14261
2036	14957

Source: BBS(2015)

## 6.2 College going aged population

According to UNESCO meta data, the official ages of tertiary education is 18-22 years<sup>1</sup>. The projected population ages 18 years who are likely to constitute the population of official age for higher education is presented in Table 7.

The projected data shows that by the year 2031, the size of population eligible for attending higher education (age 18-22 years) drop by 2.5% than that of the year 2016. However, the fall of population within the official age does not necessarily means the fall of enrolment in tertiary higher education as the prospective enrolment is preconditioned upon the number of HSC graduates and students' zeal in further education.

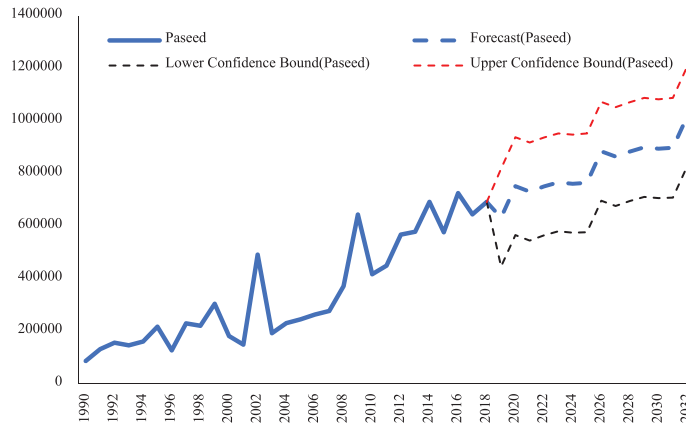
## 6.3 Projection of HSC graduates

An analysis of time series data shows that between the year 1998 and 2001, the total number of HSC candidates who passed HSC examination fell followed by a sudden surge in the year 2003. In the year 2004, the number of HSC candidates who passed HSC examination fell too. The seasonality in the dataset remained from 1990 until the year 2018. Based on the past data, future number of HSC graduate is forecasted (dotted line in 6.3). The back and red solid line in the Fig 6.3 show 95% Confidence Interval (CI) lines.

The Fig 6.3 shows that by the year 2032 total number of HSC passed graduates will reach 1.01 million from 0.69 million in 2018 with some seasonal changes in the year 2021 and 2027. However, every HSC passed graduates will not pursue further higher

<sup>1</sup><http://uis.unesco.org/en/country/bd>

Figure 6.3: HSC graduates projection



Data source: BANBEIS (2019)

education. Under the given presumption, it is a good idea to make some projection about enrolment in bachelor degree and bachelor honours program. This is done in the next section.

## 6.4 Enrolment projection in Bachelor programs

In this sub-section we make projection of enrolment in Bachelor (honours) and Bachelor (Pass) degree program. Actual enrollment growth (in the current year as a percentage of the previous year) in bachelor degree programs (Bachelor pass and Bachelor honours) shows a seasonal pattern of changes that can be divided into two parts: years 2006-2012 and 2012-2018. Between the first phase of 2006-2012, the growth rate of enrollment was 17% and in the second phase of 2012-2018, the growth rate was 5%. On the whole, in the last one decade (2006-2018), the growth rate was 10%.

Holding other things remain same, we project enrollment in bachelor degree program (i.e. degree pass and degree honours programs). To make the project we have use econometric estimation of a Vector Auto Regressive (VAR) model. Four candidate models are attempted to be estimated and thereafter, to be used for forecasting. They are:-

$$\text{Model 1 : } S_t = f(S_{t-2}, P_{t-2}, C_{t-2}, \Delta H_{t-2}, \Delta U_{t-2}) \quad (6.1)$$

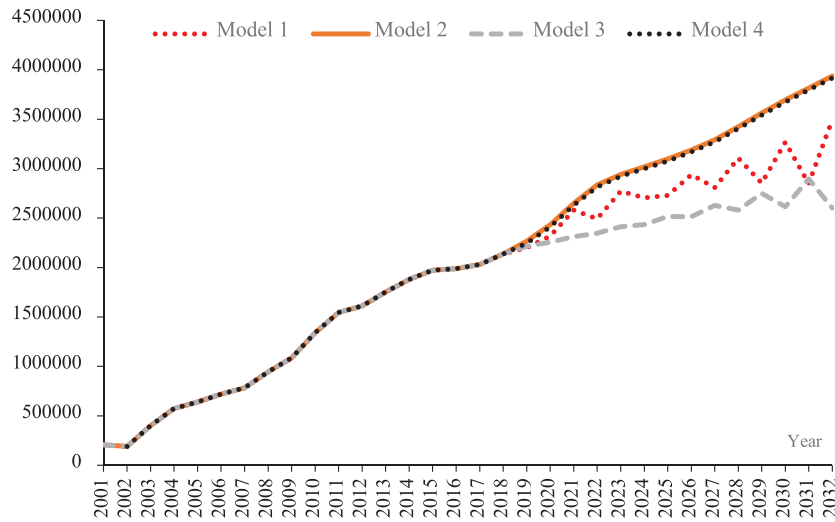
$$\text{Model 2 : } \Delta S_t = f(S_{t-2}, \Delta P_{t-2}, C_{t-2}, \Delta H_{t-2}, \Delta U_{t-2}) \quad (6.2)$$

$$\text{Model 3 : } S_t = f(S_{t-2}, P_{t-2}, C_{t-2}, \Delta H_{t-2}) \quad (6.3)$$

$$\text{Model 4 : } \Delta S_t = f(S_{t-2}, \Delta P_{t-2}, C_{t-2}, \Delta H_{t-2}, \Delta U_{t-2}, \Delta T_{t-2}) \quad (6.4)$$

Notation used in the models are:  $S_t$  = Total number of Bachelor students at time  $t$ ;  $S_{t-2}$  = Total number of Bachelor students at time  $t - 2$  (i.e. two years lags);  $P_{t-2}$  = Total number of population aged 19 years at time  $t - 2$  (i.e. two years lags);  $C_{t-2}$  = Total number of colleges at time  $t - 2$  (i.e. two years lags);  $H_{t-2}$  = Total number of HSC graduates at time  $t - 2$  (i.e. two years lags);  $U_{t-2}$  = Total number of universities at time  $t - 2$  (i.e. two years lags);  $T_{t-2}$  = Total number of of technical and vocational students enrolled at time  $t - 2$  (i.e. two years lags);

Figure 6.4: Forecasting enrolment in Bachelor degree programs



Data source: BANBEIS (2019)

The results obtained for the three models and the resulting forecast figures are given in Figure 4.6. It is understandable that considering the limitation of unavailability of data for a longer time series, the fitted models are the only available means to give a tentative future scenario of number of students at the tertiary level. By looking at the statistical results for the three models and the resulting forecasts, of the three models considered in the analysis, the second model gives a better representation of the available data (AIC value 48 appx). The other two models with a very high AIC neither represent the data well nor produces a steady forecast (fluctuation in the future forecast on the basis of 16 time point data is not a usual picture). The Model 2 is therefore chosen to be kept for the forecasting. However, to validate the approach, the stability of the model for the forecasted period were checked using Granger Causality Wald Test. From the above discussion, it may be concluded that

the Model 2 is the best option among the limited availability of the data.

Based on the best Model 2, we come to a conclusion that by the year 2032, the estimated total number of students in Bachelor programs (in NU affiliated colleges) will be 3,936,573, given that other things remain same. That the projected enrollment in Bachelor program rise by 63.48% (base year 2018). However, on a year-to-year basis, the estimated rise of student enrollment is not smooth; in contrast, there will be seasonality in the number over the year. Having the projected total size of graduates of 3.936 million, and size of college going age population of 14.261 million, the projected enrollment ratio will be 27.60% by the year 2032.

# Chapter 7: Major Findings and Possible Changes

## 7.1 Major findings

**Policy prescriptions are yet to be realised:** Current government's education policies consist of policies, strategies and programs encompass issues in the domains of (i) access and equity (ii) quality (iii) management and (iv) financing. Key highlights of the National Education Policy 2010 are: merit-based entrance to higher study, scholarship to poor meritorious students, replacement of 3-year long Bachelor degree program with 4-year long Bachelor Program, sufficient investment in physical facilities development, more opportunity for teachers training, and relatively more and more participation of students' parents in financing higher education. It emerged that the policy prescriptions are yet to be realised.

**Increasing economic growth is positively associated with increasing years of schooling:** Higher education contributes to the economic development of the country through higher accumulation of human capital that is measured by the average years of schooling. In Bangladesh the average years of schooling amongst the population ages 25 years and above, has increased tremendously from an average of 4.1 years in 2000 to an average of 5.8 years in 2017. Since, the overall contribution of the affiliated colleges of the NU is high (i.e. 65%-70%), it is not an execration to argue that the contribution of affiliated colleges of higher study to human capital accumulation is significant. Coupled with the increased human capital, the country's physical capital has contributed to the economic growth through rising labour productivity. Between the year 1990 and 2016, countries those have achieved higher per capita GDP have also achieved so due to higher level of average years of schooling.

**The stream of tertiary higher education is multifaceted:** Some are colleges, some are universities, some are technical institutions, and some are madrasahs. There are 17 (seventeenth) affiliating universities in Bangladesh, including the National Uni-



versity Bangladesh, so the scope of general higher education in affiliated colleges of NU is huge. In 2018, total number of affiliated colleges engaged in providing higher education at Bachelor and Master's level was over 2000. These colleges are geographically dispersed widely. The landscape of higher education in colleges show the dominance of private initiative. The rapid growth of enrolment and subsequent graduation from affiliated colleges attributed to the rapid growth of non-government colleges. The rapid growth in enrolment has led to the concern that many non-government colleges are “diploma mills or garage universities that offer limited value-added to their students” (World Bank, 2017b).

**Enrollment ratio in the National University Bangladesh is 17% and thus supports the evidence of early stage of massification of higher education:** Enrolment ratio increased but there was a seasonal variation in the rate of changes in the enrolment ratio between the year 2011 and 2019. The biggest contribution was made by the affiliated colleges of higher study having an enrolment of 17.48% in the year 2019. The remaining enrolment ratio of 7% was distributed among the public and private universities. Having an enrolment ratio of 24%, the higher education sector was at the early stage of ‘massification’ on the whole. However, the supply of seats in the higher education institution was greater than the demand for higher education in the year. Meaning that the existing structure of higher education had capacity to absorb increasing demands for higher study.

**On the whole the college are small in size in terms of total students enrollment:** On the whole, the colleges are small in terms of student enrolment in higher education, excluding enrolment in intermediate (higher secondary) education. In the private sector around 43% colleges have students less than 2000. The small colleges are unable to mobilize adequate amount of revenue to keep the college financial self-reliant. Observation shows that the small colleges have problems alike and suffer from lack of adequate facilities required for learning, inadequate infrastructure and facilities, large vacancies in faculty positions and poor faculty. Consequently, soon after foundation, the small colleges start lobbying for government financial support popularly known as “MPO-listed Colleges”. That often turn to a political agenda at the national level. Thus, political pressure becomes the norm and standard of survival of a college.

**Subject mix in the Science and Technology Faculty were having low priority:** In the affiliated colleges the subject mix of the given Bachelor (Pass), Bachelor (Honour's) and Master's programs was biased to the Arts and Social Science Faculty. The subject mix in the Science and Technology Faculty were having low priority. Science and technology related education in higher education institutions

are in dire conditions, facilities for science education are unsatisfactory. As science education requires vigorous theoretical and practical classes, students who aim at securing job at the shortest period of time or their guardians avoid the pathway of science education. The situation is further aggravated by the lack of opportunity of lab facilities in colleges, they offer science education without laboratory facilities. Because of lack of students at the tertiary level, lack of science teachers in secondary and intermediate colleges, science education is looming large.

**Projected enrolment will be 3.936 million by the year 2032:** The demographic transition shows that the size of the country's labour force rises nearly 53 million between the periods of 2010 and 2050, which opens a wide window of opportunities for Bangladesh for consolidating rising economic growth. The potentiality can be realised if and only, if more human capital joins the labour force over the next two decades. The projected data show that by the year 2031, the size of population eligible for attending higher education (age 18-22 years) will drop by 2.5% than that of the year 2016. However, the fall of population within the official age does not necessarily mean the fall of enrolment in tertiary higher education as the prospective enrolment is preconditioned upon the number of HSC graduates and students' zeal in further education.

By the year 2032 total number of HSC passed graduates will reach 1.01 million from 0.69 million in 2018 with some seasonal changes in the year 2021 and 2027. Furthermore, if other things remains same, by the year 2032, the size of enrolment in tertiary colleges will be 3.936 million. Having the projected total size of graduates of 3.936 million, and size of college going age population of 14.261 million, the projected enrolment ratio will be 27.60% by the year 2032.

**Concluding remarks:** A number of socioeconomic issues have bearing on female participation in higher education, some of which are particularly deep rooted in the South Asian countries, including Bangladesh. According to UNESCO, these may include home-making responsibilities, pressure to marry, and pressure to work earlier can prevent women from accessing higher education (The Economist, 2013).

It is well understood that perceived standards of higher education in South Asia are well below the average on various international rankings. In Bangladesh, there is no college or university in the top hundreds of the Times Higher Education (THE). Outside the global context, in Bangladesh a handful of public universities enjoy the reputation, but competition for a place is fierce. Across the public and private sectors, quality assurance, and a dearth of effective accreditation and quality assurance mechanisms remains as shortcomings (The Economist, 2013). The Economist journal observed that education quality is low in universities in South Asia. The Economist

further observed that employees have lack of skills in English language, computer, communication and problem-solving abilities are absent.

# Possible Changes

## 7.2 Possible changes

### 7.2.1 Main objective

The affiliated colleges are to educate/teach/train undergraduate and graduate students, to undertake research, and to provide professional short-training. colleges.

### 7.2.2 Vision

The affiliated colleges endowed with adequate human and non-human resources, are capable of delivering higher studies in disciplines commensurate with the demand of society and economy, so that the human capital emulates international standard in terms of cognitive and non-cognitive skills.

### 7.2.3 Size

By the year 2032, the projected total enrolment will be 3.9 million and enrolment ratio will be 27.60<sup>1</sup>, if other things remained same. The current enrolment ratio in affiliated general colleges will be held at the current ratio of 17% (of the total enrollment in higher education). And to meet the increasing demand of higher education, no new college will be required in the short-run as the affiliated colleges have sufficient capacity (i.e. number of seats) to absorb the increased demand.

### 7.2.4 Shape

In future, higher education in colleges should embark upon training high-level specialized manpower to meet the needs of economic development, particularly the needs of burgeoning industries. For practical reasons some disciplines would be on least

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<sup>1</sup>Total projected population of age 18-21 years 14.261 million by the year 2032.

priority rather more emphasis should be given on science and technology loaded disciplines. Against the backdrop, new undergraduate degree programs in computer and data science or any other job-oriented subjects will be introduced in place of traditional disciplines that have mostly become obsolete in job market nowadays. Within the existing structure of higher education in colleges, the prospect of vocational and technical education will be explored.

### **7.2.5 Mission statement**

#### **Bringing the affiliated colleges under the umbrella of BAC**

From 2017 Bangladesh Accreditation Council (BAC) has been working to oversee the quality of higher education in the public and private universities across the country. However, any initiative is yet to be in place to bring the colleges of higher study under the umbrella of the QAC. It is envisioned to found a QAC in each college in line with the requirement(s) of the BAC, so that it is possible to bring the affiliated colleges under the umbrella of BAC.

#### **Investing in colleges adequately**

To overcome the current dilapidated (physical and technical) facilities, adequate investment in colleges of higher study will be required. In this case, SHED/DSHE/NU will be required to undertake new development projects. Likewise CEDP, more projects may be undertaken. Age-old renowned government colleges located in different district towns of the country may be brought under a network so that these colleges may emerge as full-fledged research institutions.

#### **Moving toward resources sharing**

Since the majority colleges suffer from financial constraints, there should be collaboration including resource sharing among the colleges situated in close vicinity. In pursuance of the principle, the government may undertake initiatives to create resource hubs such as libraries, laboratories, and computer labs in selected big colleges across the country with provisions to be used by students of all colleges live in the nearby areas.

#### **Reorganizing the composition of the governing body**

The composition of the governing body should be reorganized cutting down the size of the governing body from current size of members from 15 (fifteen) to 10 (ten) including

two female members. The governing body should be composed of One Chairman, One DSHE representative, One Education Board representative, Two NU representatives (including Chairman), Two teacher representatives, Two guardian representatives and One Member-Secretary (principal of the college works as Member-Secretary by default) of the Governing Body. A new law / regulation should be in place so that the minimum academic qualifications of any member should not be below the graduation degree.

### **Ensuring financial accountability**

Besides adequate financial investment in colleges, stringent financial accountability should be in place, so that the government and non-government college authorities manage funds with due diligence following the rules and regulations of the government and the NU. Government and NU authorities will put emphasis on supervising financial matters in the non-government colleges so that colleges funds are not utilised properly.

### **Maintaining and upgrading the current arrangement of teacher training**

The ongoing college teachers' training programs of the NU should continue and expand. Such training programs may be expanded to the NU regional centers in due courses. Teachers who are having training as Master Trainer at Nottingham University, Malaysia will be engaged to train up untrained teachers in future applying new state-of-the art training approaches, and thus more and more teachers will have opportunity of being trained.

### **Policy shift regarding teachers' promotion**

Since faculties of colleges are less motivated to pursue higher study like PhD after joining the services, it is desirable to bring a change in the policy in respect of promotion so that they opt for higher study including quality research publications in peer-reviewed journals in home and abroad.

### **Revisiting role and legal framework of NTRCA**

The government has been reviewing the current legal framework of the NTRCA. It is expected that in the coming days, a law will be enacted to empower the new body to selecting teaching staff of the non-government colleges. The new body will function as an independent commission.

**Strengthening the role of NU in higher education**

The NU shall be working on delivering short-courses such as diploma and post-graduate certificate degree courses in disciplines that are in high demand in the job market using the existing on-campus and off-campus facilities. It is expected that having the short-courses, a graduate will go to the job market. The existing facilities of the NU should be decentralised to the regional centers of the country in line with the National Education Policy 2010.

**7.2.6 Setting milestones**

In Table 7.1 we prioritize recommendations according to Short-term, Mid-term and Long-term priority.

Table 7.1: Table of milestones for possible changes

	Short-term	Mid-term	Long-term
Bringing the affiliated colleges under the umbrella of BAC	- Yes	Yes	-
Investing in colleges adequately	Yes	Yes	Yes
Ensuring financial accountability	Yes	Yes	Yes
Bring down student-teacher ratio to 1:20	Yes	Yes	-
Reorganizing the composition of the governing body	Yes	-	-
Maintaining and upgrading the current arrangement of teacher training	Yes	Yes	Yes
Policy shift regarding teachers' promotion	-	Yes	Yes
Revisiting current role and legal framework of NTRCA	Yes	Yes	-
Strengthening the role of NU	Yes	Yes	-
Moving toward resource sharing	-	Yes	Yes
Introducing graduate internship opportunity	Yes	Yes	Yes



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**College Education Development Project (CEDP)**

National University

Secondary and Higher Education Division, Ministry of Education  
Probashi Kallyan Bhaban, Eskaton Garden Road, Ramna, Dhaka